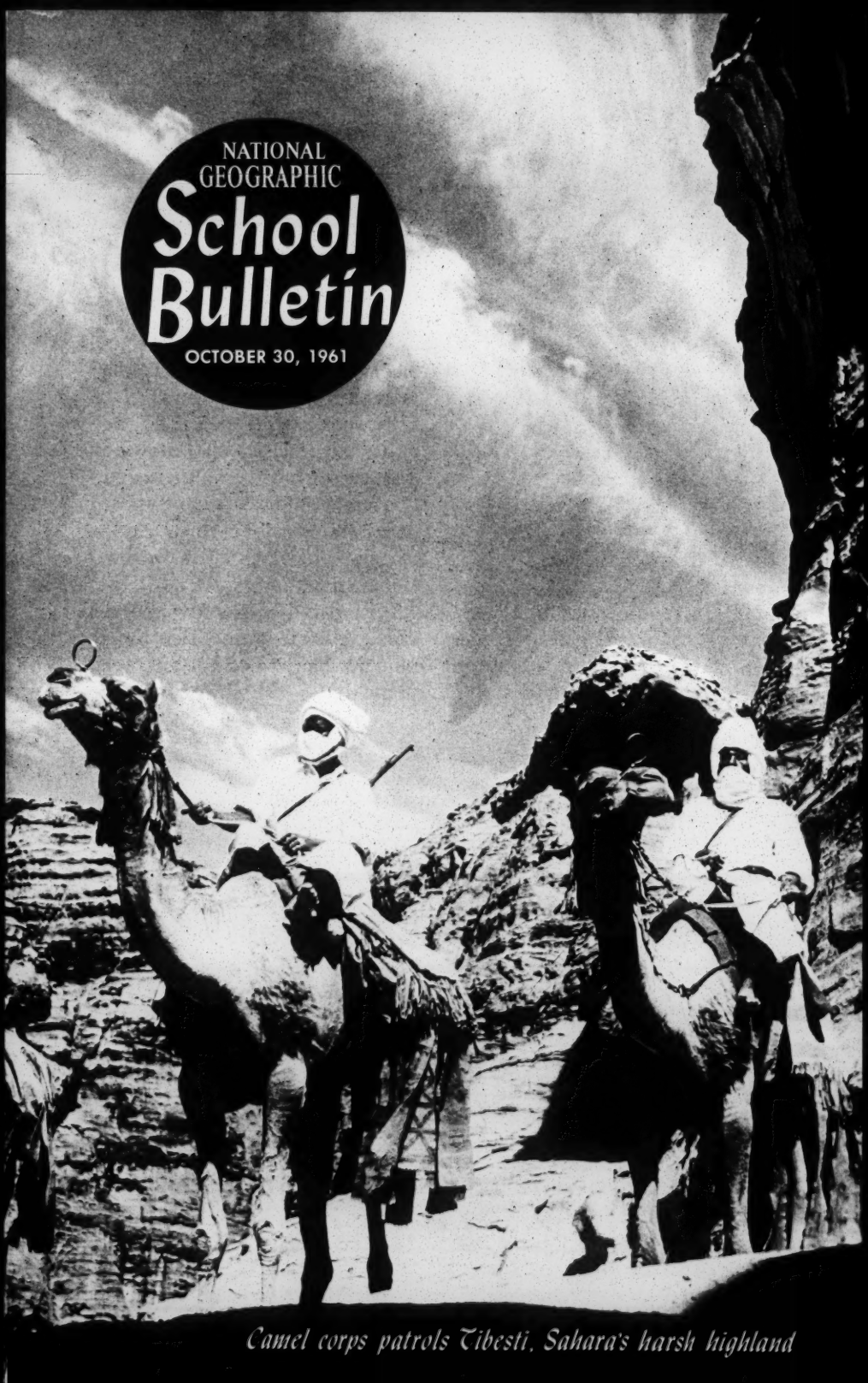


Camel corps patrols Tibesti, Sahara's harsh highland

Tibesti *Rocky Mountains Amid Sahara Sand*

SUNSET streaks the North African sky (below), outlining the far mountains of rock sweeping upward from the flat Saharan wasteland. Their giant size is reduced by distance; they lie two hours away by camel.

Local legend says it is dangerous to camp in the shadows of these mountains. Spirits awake after the torrid days, and strange voices come out of the stone to frighten the camels away.

Called Ehi Goudei, these nude rocks are part of the Tibesti, a remote triangular-shaped mass of extinct volcanoes in the Sahara. It lies in the northwest corner of the newly-independent African country of Chad.

The highest point of the range—and of the Sahara—Emi Koussi, soars 11,204 feet. The crater of its dead volcano is eight miles in diameter.

Though Tibesti stretches over an area as large as England and Wales, it holds a population equal only to that of a small English town: some 7,000.

French author, photographer, and artist Maurice Fiévet recently traveled Tibesti's stone-spiked trails and sent back information and these pictures to the National Geographic Society.

He visited native camps and villages, rode mile after lonely mile on the back of a camel, even slept under the desert stars—

CAMEL caravan approaches the jagged rocks of Ehi Goudei in Tibesti, a bleak and

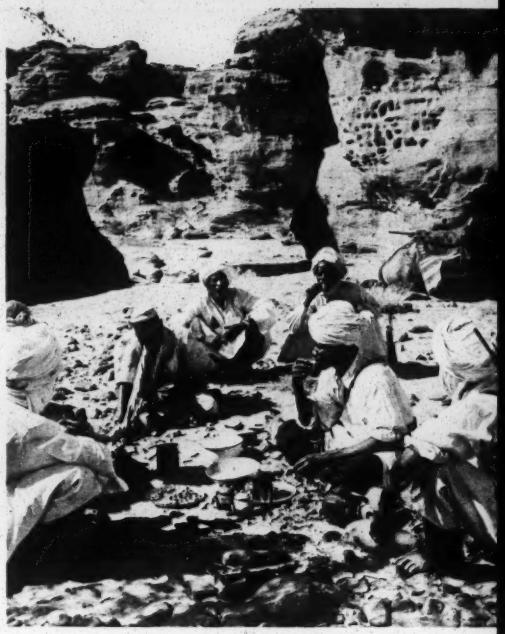
though not, he says, in the shadow of Ehi Goudei. His guides wouldn't allow it.

These people are of the Tibbu tribe. They used to live by stealing. Mounted on sturdy camels, they swept out of their mountain fortresses to rob caravans carrying cargoes of metals, cloth, and salt across the desert.

The Tibbu not only stole the freight, but they also kidnaped men. They set their prisoners to cultivating Tibbu gardens and tending Tibbu palm trees. To prevent escapes, the mountain people severed a tendon in each captive's heel.

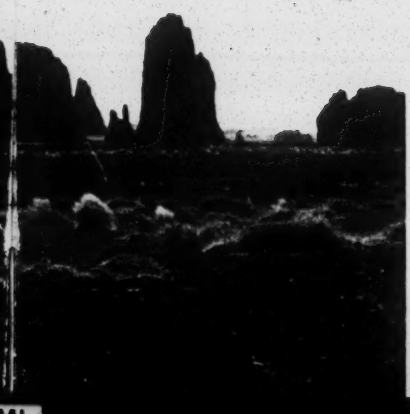
During the 19th century, the French were building an empire in Africa. Early in the 1900's French law reached Tibesti.

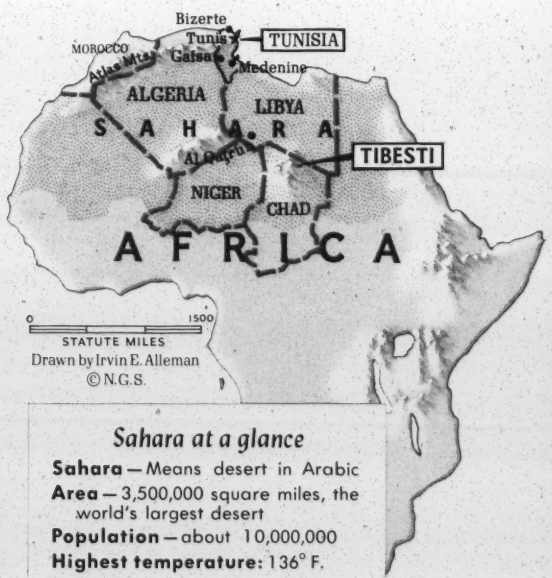
With suppression of slavery



IT'S TEA and dates all around after riflemen capture a Tibbu bandit. The prisoner is the one with a scarf twisted about his neck.

forbidding region of the Sahara





Sahara at a glance

Sahara — Means desert in Arabic

Area — 3,500,000 square miles, the world's largest desert

Population — about 10,000,000

Highest temperature: 136° F.

Rainfall — Very little, occasional cloudbursts. Some areas go seven to ten years without rain.

All Photographs by Maurice Fiévet

RINGED by Tibesti's rock pinnacles, an oasis village sleeps in the sun: palm trees

and pillaging, the French had difficulty persuading the Tibbu, long dependent on slave labor, to tend their own gardens. For in Tibbu minds, work connotes inferiority, and the most humiliating tasks are those which oblige men to stoop toward the earth.

However, the Tibbu gradually began to scratch their own living from the reluctant soil. At oasis villages, like the one above, they now manage to grow a number of crops such as millet, maize, tomatoes, wheat, melons, and even a few grapes.

The Tibbu mainstay is the date palm. From it they get not only food, but houses, mats, ropes, baskets, and buckets which they make from the leaves.

The women hoe, fertilize, and irrigate the land, make butter, harvest grain, tramp millet, cook griddle cakes of millet dough, and harvest the dates.

The men care for the palm trees and build the huts. But they prefer to work with the camels, make rope, and sew clothing.

Men are often separated from their families. Still nomads at heart, they constantly rove the rocky plateaus seeking pasture for their herds of camels, goats, and donkeys. They even cross the burning, practically waterless desert to Al Qatrun in Libya to trade goats for sugar and tea.

One of the sights that fascinated Mr. Fiévet was a herd of

WORD OF THE WEEK

Mil'let (mĭl'ĕt), n. *An annual grass grown for its grain and used for food in the Old World. Almost one-third of the people in the world depend on it.*

furnish building and fencing material

TIBBU "beautician" improves a woman's features by pricking her lips with locust thorns, then rubbing charcoal and crushed fruits in the flesh. The lips turn blue, the final touch of Tibbu beauty. To insult a Tibbu woman, call her "Red-mouth"!

Below, a boy bathes his feet in a rock-sheltered pool. He and his family journeyed 16 days by camel to try the curing effects of Tibesti's hot sulphur springs. For years, disease-wracked pilgrims have traveled here to bathe in the waters.

donkeys left alone in the desert, and not a herdsman in sight.

The Tibbu, his guide explained, use the animals only a few weeks or months of the year for transporting dates. Then they turn them loose in the open.

There is no fear of losing the donkeys. They stick close to the few wells and pastures where their masters can find them and travelers can give them a drink.

Isolated, the Tibbu are untroubled by the problems that beset the northern Sahara. Perhaps they would not even understand why nations argue over a huge stretch of hot, yellow sand. For the Tibbu have not seen how oil can change men's lives. In fact, they have seen few of the 20th century's tools—only what Tibesti-based French troops and travelers have brought. L.B.

Tunisia...

Progress Tugs at Veil of the Past

NORTHWEST of Tibesti's barren rocks lies stormy Tunisia. You may have read about this country in the newspaper recently. If so, you know that it has been quarreling with France over Bizerte, a big French naval base on Tunisian soil, and over a strip of the Sahara in neighboring French-ruled Algeria.

Bizerte, which is near Tunis, is one of France's four big Mediterranean bases. France, which ruled a large area in North Africa —including Tunisia—during the last century, is regarded there as an unwelcome bully now. Tunisia, which has been an independent country for only five years, is determined to oust the larger nation from its last remaining outposts.

Since you just read about Tibesti's bone-dry highlands, you may wonder why Tunisia quarrels over a slice of desert. A decade ago, most people would have wondered, too. Since, however, prospectors have discovered Sahara's tawny sands are only a covering. Below lies a tremendous wealth in minerals: oil, gas, iron, copper.

Tunisia wants part of the bonanza. She bases her claims on old treaties which fixed her borders 20 miles south of their present limit. (See map on page 51.) Later, if and when Algeria wins independence from France, Tunisian President Habib Bourguiba plans to claim another strip of Algerian desert. Should he get his way, his country would stretch south all the way to the Niger frontier and enclose some very rich oil fields.

Tunisia is neither large nor rich. Its 48,332 square miles would fit inside Libya, its eastern neighbor, 14 times. However, a much greater percentage of the country is productive.

GAFSA, a peaceful oasis, hides its history: a battleground of World War II.

PHOTOGRAPHS BY GEORGE RODGER, MAGNUM

UMI

The Atlas Mountains, which cross North Africa, divide Tunisia. North of the mountains and along the eastern coastal plain, rainfall is plentiful enough to nourish cork-oak trees—which provide raw material for bottle-stopper factories. Farmers raise grain, fruit, vegetables, and tend sheep, goats, and a few cattle. Most of Tunisia's nearly four million people live in the north, wresting a bare living from the soil.

South of the mountains, the land slopes away to a plateau, then gradually becomes desert—which makes up two-fifths of Tunisia. Here nomadic herdsmen drive their sheep and camels from one sparse grass patch to another. A few oases provide watered land for date palms.

Olive trees, which demand little water and thrive on thin rocky soils, are grown in many places. Olive oil is the butter, lard, and salad dressing of Mediterranean people.

Tunisians are gradually modernizing. A few shiny red tractors have appeared to displace an occasional camel-pulled plow. Dams rise to store precious water. Prospectors dig under desert sands in search of riches. Shantytowns disappear. Broad boulevards replace cluttered and winding city lanes.

Old customs die. Moslem women, traditionally veiled and secluded, begin to show their faces, vote, even take jobs. Girls as well as boys attend the new schools that rise in Tunisian towns. L.B.

PUEBLO-LIKE *ghorfas,* above, serve as storehouses and homes in the desert town of Medenine.

Below, Avenue Bourguiba stripes Tunis, modern capital city.

TRISTAN DA CUNHA

Volcano drives islanders from "loneliest spot on Earth"

PHOTOGRAPHS BY LIEUTENANT G.I.B. BALFOUR, R.N.

TRISTAN DA CUNHA rises serenely above the South Atlantic before the eruption

THE PEOPLE of Tristan da Cunha had good reason to believe that they were living in one of the safest places in the world. Their home was a tiny island, about halfway between The Cape of Good Hope and Cape Horn, far removed from the strife of the Northern Hemisphere. It was a volcano rising 7,640 feet out of the sea, but "The Peak" had not erupted in modern times, and its crater was filled with an unruffled lake of clear, ice-cold water.

Tristan is a British possession. It was named after a Portuguese admiral who discovered the island in 1506, but in 1816 the British annexed Tristan and the four neighboring islands. Until the middle of the last century, the South Atlantic Ocean around Tristan was a favorite hunting place for whalers, but the whaling industry declined, and the island came to be known as "the loneliest spot on Earth."

Time stood still on Tristan, and the rest of the world was hardly aware of the island's existence. Some 250 people lived there, most of them descended from clipper-ship men whose vessels crashed against the hidden rocks. They wore old-fashioned clothes and lived in houses that were made of rough slabs of stone, hewn from the rocky cliffs.

The island had only one settlement, Edinburgh. There were no automobiles or other modern means of transport. The rough roads were traveled by donkeys and crude ox carts. Islanders made a living from the rocky slopes by growing potatoes, apples, peaches, and livestock, and a small crawfish industry developed. Few islanders had ever been away from Tristan. In 1958 planes from an American aircraft carrier flew over the island. The startled islanders had never seen a plane before.

In recent months, a series of tremors shook the island. This month the tremors grew to earthquakes and the volcano suddenly erupted. Terrified islanders crouched in potato patches for two horrible nights, sent off a message to Cape Town: "Lava is flowing and the whole eastern end of the island is cracking. Great lumps of rock and earth have been forced up 30 feet."

Giving up hope that the eruption would stop, they gathered up the few possessions that they could carry and fled in longboats through the surf. Offshore they transferred to larger fishing boats, then fought their way through rough seas and waded ashore on Nightingale island 13 miles away.

Through the night they watched the angry glow of the volcano as it ravaged their island. The next day a Dutch ship picked up most of them to take them to Capetown. A few volunteers remained on Nightingale to keep an eye on the volcano, and to go back to Tristan after it simmers down—if anything is left. W.G.

AUTHENTICATED NEWS PHOTO

SUPPLY BOAT, bringing goods from a ship offshore, is beached by islanders. Tristan imported clothing, medical supplies, and foodstuffs.

ANCIENT transport, a crude ox-cart with wooden wheels, hauls supplies from the beach to the village.

ISLAND cottage is built of stones hewn from rocky cliff near by. The thatched roof is made of coarse flax, which grows in the island gardens. Houses have earth floors and crude wood furniture. The settlement is on a plateau five miles long and one mile wide. The distance around the entire island is only 21 miles.

IF YOU took a highway trip last summer you may have "seen" some sights that were not really there. For instance, when you look into the distance down a level highway, you often see what appears to be a shimmering pool of water across the road. But when you reach the spot the pool has vanished, to reappear farther ahead.

This is a mirage—exactly the same as the palm-lined oasis that deludes travelers dying of thirst in the Sahara. In the dry Southwest I have seen mirages spread all the way around the horizon, so that my car seemed to be on a moving island in the middle of a lake. Once there were white stucco buildings at the edge of the lake—upside down.

Mirages are created by air layers of different densities. Just as glass and water can bend a beam of light, a "lens" of warm air surrounded by cold can form the common, roadway mirage.

Hot asphalt warms the air, which reflects trees, cars, or other objects that are otherwise "out of sight." A breeze in the air layer can create ripples suggesting waves.

Such desert mirages can attract wildlife. Ducks have swooped down for a swim only to find a dust bath waiting instead. Cattle are never fooled; they locate water by smell.

More complex conditions involving layers higher in the sky can produce even more mysterious sights. Images have been carried hundreds of miles across the earth. Small objects have appeared immense.

On several occasions people in Delaware have gazed across Delaware Bay to see an upside-down panorama of Cape May, New Jersey, 18 miles away. The vision of a great, domed city once hung over a small Maryland town. Its exotic architecture could only have originated in north Africa or the Middle East.

In 1947, passengers on a Norwegian train saw a mirage of a tropical island from their car windows. For 20 minutes they watched while a battleship dropped anchor in a beautiful lagoon, faded, reappeared momentarily, then vanished.

One of the costliest mirages in history led Donald MacMillan to explore Crocker Land, "discovered" by Admiral Peary during a previous Arctic voyage. But Crocker Land was not where it appeared on the charts.

Finally MacMillan spotted its "magnificent peaks." All day the excited men hiked toward the scene. When the sun set, so did the mountains. Low hills and desolate ice stretched to the horizon.

LOOK AROUND

THOMAS J. ABERCROMBIE

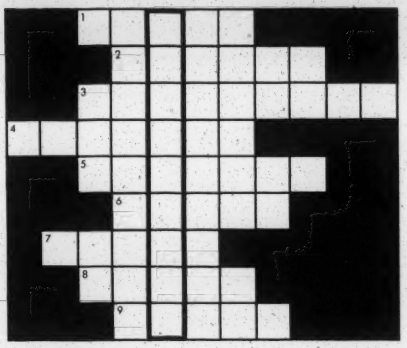
THE FUNNY-FACED fellow clinging to the treetop is a ring-tailed **raccoon**, one of nature's biggest clowns. He has a grizzled coat, black-brown rings around his tail, and a black "mask" over his face. He waddles along on flat feet like a small bear, opens doors, turns on faucets, and raids the pantry.

An old coon is especially cagey. He fools the hounds by swimming a creek to break the line of scent. He taps his forepaws on a tree trunk to make the dogs think he has climbed a tree.

Usually the raccoon avoids a fight. But if he meets a dog in the water he

GEO-GRAPH

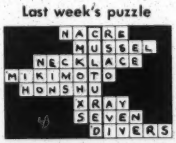
Solve the key word (heavy outline) to learn the name of Tunisia's president. All words are used in the Tibesti and Tunisia stories, pages 50 to 55.



ACROSS

1. Country immediately east of Tunisia
2. Wandering desert herdsmen
3. The Atlas _____ extend across North Africa
4. French naval base in Tunisia
5. Country immediately west of Tunisia
6. Capital of Tunisia
7. Fertile spot in the desert
8. Tibesti tribesman
9. Common desert transportation

Last week's puzzle



may climb up on the dog's head, dig in his claws and hang there like a burr until the dog drowns.

Young coons are full of mischief and never tire of romping. They are easily trapped and make good pets. But don't trust them too far. They will bite.

Raccoons are the only animals that "wash" their hands and food before eating. Scientists doubt that cleanliness is the reason.

You will find the raccoon in fields and marshes in nearly every state. They tramp the beaches of both oceans, hide under rock crevices to escape the desert's broiling sun, and scamper among the mangrove roots in southern bayous.

The raccoon holds a proud place in American history. The coonskin cap became the trademark of such resourceful frontiersmen as Davy Crockett, Jim Bowie, Daniel Boone, Christopher Gist, and others who showed the way across the Alleghenies.

Kids Ape Ancients on Halloween

Halloween's ghostly history takes children back to the pagan rites of an ancient religious order in Europe, the Druids. For them, October's end marked also the death of summer.

Gathering around bonfires, Druids mourned the passing of the golden sun god and sought to appease his dark conqueror, Samhain, Lord of the Dead.

The Druids believed the dead atoned for their sins by living in animal bodies. On Halloween night, Samhain collected the souls of those who had been living in animals during the year and sent them to their final resting place. Witches were believed to live inside black cats. In the Middle Ages in Europe, such cats were burned alive on Halloween.

The jack-o'-lantern not only makes a weird spook, but also symbolizes the fall harvest.

A dozen centuries ago, Christian church leaders established November 1 as All Saints' or Allhallows Day. The night before—Allhallows Eve—provided the name for the October 31 holiday, Halloween.

Calling all Geographers

NATIONAL GEOGRAPHIC SOCIETY MEMBERSHIP

for the calendar year 1962
(includes subscription to the National Geographic Magazine)

☐ **$6.50** in U. S. & possessions
$7.00 in Canada, $8.00 elsewhere

GEOGRAPHIC SCHOOL BULLETIN

☐ **1 year** 30 weekly issues $2.00 in U. S.; $2.25 in Canada; elsewhere, $2.50

☐ **3 years** $5.00 in U. S. only.

NAME _____

ADDRESS _____

CITY, ZONE, STATE _____ GSB-40

Syria Divorces Itself From Egypt's United Arab Republic

WE LIVE in a rapidly changing world, where old nations are dying, and new ones constantly being born. Boundaries change so fast that map makers have to race to keep up with them.

The latest country to gain its independence is one of the oldest: Syria. Oddly, if you want to see what the "new" Syria looks like, you must find a map that is at least three years old.

In 1958 the people of Syria voted to give up their independence and join Egypt in forming the United Arab Republic. Egypt's chief of state, Gamal Abdel Nasser, dreamed of an Arab empire of 60 million people. Union with Syria was the first step.

But Syrians decided they did not like the idea. Smaller than Egypt, their country was forced to play second fiddle in the new republic. Nasser became its president, and Egyptians moved into Syria to take control of nearly every phase of Syrian life.

Syria, about the size of North Dakota, is a strange blend of old and new. Factories have risen in this Biblical land where St. Paul saw the vision that made him a disciple of Christ. Some farms are mechanized, but most are cultivated by ancient methods. Camels and donkeys still transport goods over old caravan trails.

DAVID S. BOYER

Damascus, Syria's capital, was a meeting place long before this Roman arch was built

Syrians have always been great merchants and traders. They balked at Egyptian plans to take control of their businesses and industries. Last month the Syrian Army revolted. Nasser decided to fight back at first, but gave up the idea when the Syrian people supported the revolt.

Revolutions and foreign control are not new to Syria. As the land bridge at the eastern end of the Mediterranean between Europe, Asia and Africa, Syria has always been a tempting prize. Egyptians, Babylonians, Assyrians, Greeks, Romans, Mongols, Christian crusaders, and Ottoman Turks have invaded the country.

British and Arab troops occupied Syria in 1918. Between World Wars I and II the country came under French control. Syria gained its independence in 1945, but since then Syrian governments have toppled many times. Now, as Syria savors independence again, the question is, "Can she remain free of foreign control this time?"

NATIONAL GEOGRAPHIC
School Bulletin
... from the School Service Division

Published each week during the school year by the National Geographic Society. Melville Bell Grosvenor, President.

October 30, 1961 **Vol. 40, No. 5**

IN THIS ISSUE—

- Mountains in the Sahara
- Tunisia
- Tristan da Cunha

... and other features

Editor—Ralph Gray

Assistants—Arthur P. Miller Jr., Frank Sartwell, Katherine Crapster, Liva Baker, William Goolrick

Entered as second class matter, Washington, D. C. International copyright. All rights reserved.

RATES: United States, $2.00 for 30 issues (one school year); Canada, $2.25; elsewhere, $2.50. U. S. only, 3 years for $5.00.

NEXT WEEK—
Aiming for the Moon

UMI